CLAIMS

What is claimed in this invention is:

1. A computer-operable method for data processing involved in but not limited to image, pattern and sequence recognition, decision-making and machine-learning, comprising the steps of:

(a) generation of a hypothesis-parameter, in addition to parameters already existing in a database, both for a reference object (or reference objects) to be used as benchmark(s) in data processing, and for all other objects in a database that are subjects of a comparative analysis (hereunder referred to as target objects);

(b) assigning of digital values to reference objects in a hypothesis-parameter, such digital values being a reflection of a certain hypothesis of a relationship between said reference objects – based on either an *a priori* existing idea or a result of a preliminary experimental study, including clustering, of objects covered by said hypothesis-parameter;

(c) assigning of certain digital values to all target objects in a hypothesis-parameter;

(d) using a hypothesis-parameter in clustering of objects, along with plurality of other parameters describing objects under clustering,

(e) establishing a number of copies (hereunder referred to as multiplication number) of hypothesis-parameter required for compensation, during a clustering process, of effect of all other parameters describing a given object so that clustering based on thus established number of copies of a hypothesis-parameter along with the rest of parameters is identical to clustering produced upon use of a hypothesis-parameter as the only parameter,

(f) consecutive addition of each target object to a reference object (or reference objects); and

(g) using an established multiplication number for measurement of dissimilarity between reference object(s) and target objects, hence verification of validity of a hypothesis underlying a generated hypothesis-parameter.

2. The method of claim 1, wherein logarithm of hypothesis-parameter multiplication number (hereunder referred to as implausibility number) is used as a dissimilarity coefficient in a search for closest analogs of a reference object.

3. The method of claim 2, wherein, with the purpose of increasing the selectivity of a search for a reference object's closest analogs, an internal standard is employed, and a degree or coefficient of similarity between a reference object and an object compared to a reference object is computed as a ratio of: a difference between implausibility numbers of an internal standard and a compared object, and an internal standard's implausibility number.

4. The method of claim 1, wherein, in order to predict multiplication numbers for target objects on which no information is available, multiplication numbers for such objects are computed as a total of increments corresponding to individual parameters describing objects of a given database, which allows configuring a target object by combining different parts of different objects in a database.

5. The method of claim 1, wherein a hypothesis-parameter of a reference object (or reference objects) is developed for a variety of objects, artificially generated based on a reference object (or reference objects), whose totality represents a capsule of clones of said

reference object(s) and is further used for determining the dissimilarities between reference object(s) and target object(s).

6. The method of claim 5, wherein a said capsule of clones is created in various ways, including a monotonous increase or decrease, or alternation of increase and decrease, of values of all or part of parameters that describe reference object(s).

7. The method of claim 5, wherein, for the purpose of sequence or pattern recognition, a hypothesis-parameter is created by cloning a reference object whose parameters represent input quantitative characteristics of elements of a sequence or pattern under analysis.

8. The method of claim 1, wherein a multiplication number of a hypothesis-parameter is established in an automated unsupervised mode by applying the algorithm for evolutionary transformation of similarity matrices, serving as an information thyristor and providing fusion between a target object and a reference object (or reference objects) when a certain number of multiple copies of a hypothesis-parameter is added to analyzed data.

9. The method of claim 8, wherein, in order to ensure the accuracy of computation of a hypothesis-parameter multiplication number required for turning on an information thyristor and stopping a subjective and inefficient process of feature extraction for reduction of data dimensionality, similarity matrices are computed by hybridization of monomer similarity matrices, which, in their turn, are computed individually based on each parameter, including a hypothesis-parameter.

10. The method of claim 9, wherein, in order to assess a weight of an individual parameter in a multiplication number, extra copies of an individual parameter describing a target object are added, in the form of a monomer similarity matrix, to a hybrid similarity matrix.

11. The method of claim 1, wherein, to provide for non-probabilistic statistical processing of data, a multiplication number is used as a quantitative criterion of conventional complexity.

12. The method of claim 1, wherein, to provide for machine self-learning, a hypothesis-parameter is designed to be able to self-evolve through various means, such as, for instance, a consecutive addition of target objects' duplicates, which, upon the use of appropriate stimuli, provides for self-improvement of a hypothesis-parameter playing the role of the non-biological intelligence "ego".

13. The method of 8, wherein, in order to create artificial, or non-biological, intelligence, information processing is performed by processors of the information thyristor type wherein information serves as an information valve.

14. The method of claim 13, wherein, to provide an actual prototype of artificial brain, the method for evolutionary transformation of similarity matrices is used in ((~~its~~)) intuition mode, when applied as is, and in reasoning mode, when applied in combination with a hypothesis-parameter (artificial intelligence "ego").